

CLAIMS

1. A stretched-formed multilayer container formed by stretching a multilayer sheet or multilayer preform from 1.1 to 100 times its area draw ratio, said multilayer sheet or said multilayer preform containing at least one a layer (bc) made of a mixture of a polycarboxylic acid-based polymer (B) and a plasticiser (C) and at least one a layer (de) made of a mixture of a multivalent metal compound (D) and a resin (E).

2. The stretched-formed multilayer container according to claim 1, containing at least one a (bc)/(de) layer unit, which has the layer (bc) and the layer (de) adjacent to each other.

3. The stretched-formed multilayer container according to claim 1, containing at least one a (de)/(bc)/(de) layer unit, which has the layer (bc) and the layer (de) adjacent to each other.

4. The stretched-formed multilayer container according to one of claims 1 to 3,

wherein the multilayer sheet or the multilayer preform contains at least one a layer (a) made of thermoplastic resin (A).

5. The stretched-formed multilayer container according to one of claims 1 to 4,

wherein in all of the layer (bc) and the layer (de), the chemical equivalent of the multivalent metal in the total amount (Dt) of the multivalent metal compound (D) is 0.2 or more relative to the total amount (Bt) of carboxyl groups

contained in the layer (bc) and the layer (de).

6. The stretched-formed multilayer container according to one of claims 1 to 5,

5 wherein the mixing ratio between the polycarboxylic acid-based polymer (B) and the plasticiser (C) is 70/30 to 99.9/0.1 (mass ratio).

7. The stretched-formed multilayer container according to one of claims 1 to 6,

10 wherein the polycarboxylic acid-based polymer (B) has an oxygen permeability coefficient of $1000\text{cm}^3 \text{ (STP)} \cdot \mu\text{m}/(\text{m}^2 \cdot \text{day} \cdot \text{MPa})$ or less at 30°C and relative humidity of 0% when formed into a film by itself.

8. The stretched-formed multilayer container according to one of claims 1 to 7,

15 wherein the polycarboxylic acid-based polymer (B) is a homopolymer, a copolymer and/or a mixture thereof, the homopolymer and the copolymer consisting of at least one of polymerizable monomer units selected from acrylic acid, maleic acid and methacrylic acid.

20 9. The stretched-formed multilayer container according to one of claims 1 to 8,

wherein the multivalent metal compound (D) is a bivalent metal compound.

25 10. A multilayer sheet used for the stretched-formed multilayer container according to one of claims 1 to 9.

11. A multilayer preform used for the stretched-formed

multilayer container according to one of claims 1 to 9.

12. The stretched-formed multilayer container according to one of claims 1 to 9, which is used for boiling or retort sterilization.

5 13. A production method of a stretch-formed multilayer container,

wherein a multilayer sheet or a multilayer preform is stretched from 1.1 to 100 times its area draw ratio, said multilayer sheet or said multilayer preform obtained by forming by a coating method at least one a layer (bc) made of a mixture of a polycarboxylic acid-based polymer (B) and a plasticiser (C) and at least one a layer (de) made of a mixture of a multivalent metal compound (D) and a resin (E) on a layer (a) made of thermoplastic resin (A).

15 14. The production method according to claim 13,

wherein at least one a (bc)/(de) layer unit which has the layer (bc) and the layer (de) adjacent to each other, is provided.

15. The production method according to claim 13,

20 wherein at least one a (de)/(bc)/(de) layer unit, which has the layer (bc) and the layer (de) adjacent to each other, is provided.

16. The production method according to one of claims 13 to 15,

25 wherein in all of the layer (bc) and the layer (de), the chemical equivalent of the multivalent metal in the total

amount (Dt) of the multivalent metal compound (D) is 0.2 or more relative to the total amount (Bt) of carboxyl groups contained in the layer (bc) and the layer (de).

17. The production method according to one of claims 13 to 16,

wherein the mixing ratio between the polycarboxylic acid-based polymer (B) and the plasticiser (C) is 70/30 to 99.9/0.1 (mass ratio).

18. The production method according to one of claims 13 to 17,

wherein the polycarboxylic acid-based polymer (B) has an oxygen permeability coefficient of $1000\text{cm}^3 \text{ (STP)} \cdot \mu\text{m}/(\text{m}^2 \cdot \text{day} \cdot \text{MPa})$ or less at 30°C and relative humidity of 0% when formed into a film by itself.

19. The production method according to one of claims 13 to 18,

wherein the polycarboxylic acid-based polymer (B) is a homopolymer, a copolymer and/or a mixture thereof, the homopolymer and the copolymer consisting of at least one of polymerizable monomer units selected from acrylic acid, maleic acid and methacrylic acid.

20. The production method according to one of claims 13 to 19,

wherein the multivalent metal compound (C) is a bivalent metal compound.